In the Claims:

1-23. (Cancelled)

24. (Previously Presented) The apparatus of claim 27, wherein the oxygen radical or plasma annealing unit is an ozone generator or a plasma generator.

25. (Previously Presented) The apparatus of claim 27, wherein the multi-functional chamber further comprises an ozone remover connected to an exhaust end of the multi-functional chamber.

26. (Cancelled)

27. (Previously Presented) An apparatus for forming a thin film on a substrate, the apparatus comprising:

a multi-functional chamber configured to deposit a dielectric layer on the substrate, wherein the multi-functional chamber comprises:

a support plate configured to hold the substrate;

a heater unit positioned under the support plate;

a source dispersion device positioned above the support plate and configured to uniformly disperse organic source liquid;

a source supplier in fluid communication with the source dispersion device; and

an oxygen radical or plasma annealing unit connected to the multi-functional chamber and configured to provide oxygen radical or plasma gas to the multi-functional chamber to oxygen radical or plasma anneal one or more electrode and/or dielectric layers on the substrate in the multi-functional chamber, said oxygen radical or plasma annealing unit comprising a gas

source selected from the group consisting of O_2, NH_3, Ar, N_2, and N_2O.

28. (Original) The apparatus of claim 27, wherein the source supplier comprises:

a liquid mass flow controller configured to control a flow of organic source liquid;

an evaporator in fluid communication with the flow controller and configured to evaporate the source liquid; and

a transfer gas source in fluid communication with the evaporator and configured to transfer an organic source from the evaporator to the source dispersion device.

29. (Original) The apparatus of claim 28, wherein the source supplier comprises between 1 and 3 evaporators.

30. (Previously Presented) The apparatus of claim 27, further comprising:

a cleaning gas supplier in fluid communication with the multi-functional chamber and configured to supply cleaning gas to remove dielectric material from a wall of the multi-functional chamber.

31. (Previously Presented) The apparatus of claim 27, further comprising:

a loadlock chamber configured to introduce the substrate into the apparatus; and

a transfer chamber connected to the loadlock chamber and configured to transfer the substrate from a first chamber to a second chamber, wherein the multi-functional chamber is connected to the transfer chamber.

32. (Original) The apparatus according to Claim 31, further comprising an electrode deposition chamber connected to the transfer chamber.

33. (Original) The apparatus according to Claim 31, further comprising a crystallization

annealing chamber connected to the transfer chamber.

34. (Original) The apparatus according to Claim 31, further comprising an oxygen radical or plasma annealing chamber configured to pre-treat a lower electrode and connected to the transfer chamber.

35. (Original) The apparatus according to Claim 31, further comprising:

a cooling chamber connected to the transfer chamber; and

a pre-heating chamber connected to the transfer chamber.

36-44. (Cancelled)

45. (Previously Presented) An apparatus for forming a thin film on a substrate, the apparatus comprising:

a multi-functional chamber configured to deposit a dielectric layer on the substrate and configured to oxygen radical or plasma anneal one or more electrode and/or dielectric layers on the substrate, said multi-functional chamber comprising:

a support plate configured to hold the substrate;

a heater unit positioned under the support plate;

a source dispersion device positioned above the support plate and configured to uniformly disperse organic source liquid; and

a source supplier in fluid communication with the source dispersion device, said source supplier comprising:

an organic liquid source;

a liquid mass flow controller configured to control a flow of organic source liquid;

an evaporator in fluid communication with the flow controller and configured to evaporate the source liquid; and

a transfer gas source in fluid communication with the evaporator and configured to transfer an organic source from the evaporator to the source dispersion device;

an oxygen radical or plasma annealing unit connected to the multi-functional chamber and configured to provide oxygen radical or plasma gas to the multi-functional chamber to oxygen radical or plasma anneal one or more electrode and/or dielectric layers on the substrate in the multi-functional chamber, said oxygen radical or plasma annealing unit comprising a gas source selected from the group consisting of O_2, NH_3, Ar, N_2, and N_2O; and

a cleaning gas supplier in fluid communication with the multi-functional chamber and configured to supply cleaning gas to remove dielectric material from a wall of the multi-functional chamber.

46. (Previously Presented) The apparatus according to claim 45, further comprising:
a loadlock chamber configured to introduce the substrate into the apparatus; and
a transfer chamber connected to the loadlock chamber and configured to transfer the substrate from a first chamber to a second chamber, wherein the multi-functional chamber is connected to the transfer chamber.

47. (Previously Presented) The apparatus according to claim 46, further comprising an electrode deposition chamber connected to the transfer chamber.

48. (Previously Presented) The apparatus according to claim 46, further comprising a crystallization annealing chamber connected to the transfer chamber.

49. (Previously Presented) The apparatus according to claim 46, further comprising an oxygen radical or plasma annealing chamber configured to pre-treat a lower electrode and connected to the transfer chamber.

50. (Previously Presented) The apparatus according to claim 46, further comprising:
a cooling chamber connected to the transfer chamber; and
a pre-heating chamber connected to the transfer chamber.

51-54. (Cancelled)

55. (Previously Presented) The apparatus of claim 27, wherein the oxygen radical is ozone.

56-57. (Cancelled)

58. (Previously Presented) The apparatus of claim 27, wherein the dielectric layer deposited in the multi-function apparatus consists of a material selected from a group consisting of Ta_2O_5, Al_2O_3, TiO_2, Y_2O_3, $SrTiO_3$, $BaTiO_3$, $SrTiO_3$, $PbZrTiO_3$, $SrBi_2Ta_2O_9$, $PbZrO_3$, $LaZrO_3$, $PbTiO_3$, $LaTiO_3$, and $Bi_4Ti_3O_{12}$.

59-66. (Cancelled)